Storm Systems

Comm 82.36 (5) states that Storm pipe should be sized from Tables 82.36 1 to 4a, or a detailed engineering analysis acceptable to the department.

The following methods would be acceptable to the department.

1. Rational Method. Q= CiA Q= Peak Flow in cfs. C= Weighted Runoff coefficient
   I= Rainfall intensity in inches per hour A= Total Acres.
   (Complete copy of this method in General Plumbing File, Tab 2, Storm Sizing)

2. Haestead Method (Flow Master) or another program.

3. TR55

If one of these four methods were submitted, we would accept them, and treat them as a regular plan submittal. If a designer wants to utilize one of these methods in an agent city, and the agent has the program and feels comfortable running it, they can do it. In our plan review, if provided with a computer print out from the program, we will validate inputs and make sure the outputs from the computer program are accurately transferred to the plan. We don't plan on running each program.

If the designer wants to do such things as a restrictor plate or use a rainfall rate less than 3.7" per hour, it would be a petition for variance.

Above ground storm retention systems are under two categories. DNR has requirements for detention ponds and we will not be reviewing sizing of detention ponds. We allow the designer to have any size line leave the retention pond and discharge to the city main or other point of above ground discharge. The second category is retention on parking lots or other low areas on the site that are drained by piping systems. The piping system must be designed and sized so as to allow ponding only to the height of 6" in parking lots and not allow water (at the 3.7"/hour rainfall) to enter the doorway of the building.

Piping designs of underground retention systems to hold the rain is considered plumbing. An example of this would be large diameter pipes or chambers connected together under a parking lot. The department is currently doing the review of these systems and not asking the agents to evaluate the systems. Normally the designer will have a smaller diameter pipe leave this system and connect to the city main or be directed to a drainage area. We ask for calculations to show water would not enter the building, and that there is not more than 6" of ponding in the parking lot. These systems would have to be provided with proper cleanout accessibility, but would not have to meet radius requirements. If they do not provide proper access, or calculations, they would need to submit a petition for variance, alternate system or experimental system.

If there is an infiltration system (non-approved joints, trench with aggregate, etc,) we need soil analysis info and plans would be submitted per 82.36 (3)(b). Private sewage will assist in this review.

Recycling of stormwater is currently under review, and a petition, alternate system, or experimental system approval is needed if they want to use this in the building water supply system. Contact Tom Braun or Tom Devereaux if you have a system of this type submitted.